

AMENDMENTS

In the Claims:

Please amend the claims as indicated hereafter.

1. (Canceled)

2. (Currently Amended) The system of claim [[1]] 6, wherein the first, second, and third transceivers are located at a central office of a telecommunication network.

3. (Currently Amended) The system of claim [[1]] 6, wherein the first, second, and third transceivers are located at a customer premises.

4. (Currently Amended) The system of claim [[1]] 6, further comprising:
a transformer coupled to the third transceiver, the transformer having a pair of taps coupled to the third subscriber line; and
a direct current (DC) power interface configured to apply a DC voltage difference across the taps.

5. (Currently Amended) The system of claim [[1]] 6, further comprising:
a direct current (DC) power source; and
a control element configured to electrically isolate the first subscriber line from the DC power source when the third transceiver is being used to backup the first transceiver, the control element further configured to electrically couple the first subscriber line to the DC power source when the first transceiver is communicating on the first subscriber line such that electrical power is provided from the first subscriber line to the DC power source.

6. (Currently Amended) The system of claim 1, further comprising A communication system, comprising:

a first transceiver coupled to a first subscriber line, the first transceiver configured to communicate via the first subscriber line with a remote transceiver that is located at a remote premises and coupled to the first subscriber line, the first subscriber line comprising a first plurality of conductive connections extending from the first transceiver to the remote transceiver coupled to the first subscriber line;

a second transceiver coupled to a second subscriber line, the second transceiver configured to communicate via the second subscriber line with a remote transceiver that is located at the remote premises and coupled to the second subscriber line, the second subscriber line comprising a second plurality of conductive connections extending from the second transceiver to the remote transceiver coupled to the second subscriber line;

a third transceiver coupled to a third subscriber line, the third transceiver configured to communicate via the third subscriber line with a remote transceiver that is located at the remote premises and coupled to the third subscriber line, the third subscriber line comprising a third plurality of conductive connections extending from the third transceiver to the remote transceiver coupled to the third subscriber line;

logic configured to receive a data stream comprising data to be received by data communication equipment at the remote premises, the logic configured to split the data stream such that a portion of the data is modulated and transmitted by the first transceiver across the first plurality of conductive connections to the remote transceiver coupled to the first subscriber line while a portion of the data stream is modulated and transmitted by the second transceiver across the second plurality of conductive connections to the remote transceiver coupled to the second subscriber line, the logic configured to switch communication from the first transceiver to the third

transceiver in response to a detection of a communication problem associated with the first subscriber line such that a portion of the data is modulated and transmitted by the third transceiver across the third plurality of conductive connections to the remote transceiver coupled to the third subscriber line while a portion of the data stream is modulated and transmitted by the second transceiver across the second plurality of conductive connections to the remote transceiver coupled to the second subscriber line, the logic further configured to switch communication from the second transceiver to the third transceiver in response to a detection of a communication problem associated with the second subscriber line such that a portion of the data is modulated and transmitted by the third transceiver across the third plurality of conductive connections to the remote transceiver coupled to the third subscriber line while a portion of the data stream is modulated and transmitted by the first transceiver across the first plurality of conductive connections to the remote transceiver coupled to the first subscriber line; and
a control element configured to sum power from at least two of the subscriber lines.

7. (Canceled)

8. (Currently Amended) The system of claim [[7]] 10, wherein the logic is configured to switch communication from the first transceiver to the third transceiver such that the third transceiver communicates a portion of the first output data stream in response to the detection if the communication problem is associated with the first subscriber line, and wherein the logic is further configured to switch communication from the second transceiver to the third transceiver such that the third transceiver communicates a portion of the second output data stream in response to the detection if the communication problem is associated with the second subscriber line.

9. (Currently Amended) The system of claim ~~[[7]]~~ 10, further comprising:
a transformer coupled to the third transceiver, said transformer having a pair of taps coupled to the third subscriber line; and
a direct current (DC) power interface configured to apply a DC voltage difference across the taps.

10. (Currently Amended) ~~The system of claim 7, further comprising~~ A communication system, comprising:

a first transceiver coupled to a first subscriber line, the first transceiver configured to communicate via the first subscriber line with a remote transceiver that is located at a remote premises and coupled to the first subscriber line, the first subscriber line comprising a first plurality of conductive connections extending from the first transceiver to the remote transceiver coupled to the first subscriber line;

a second transceiver coupled to a second subscriber line, the second transceiver configured to communicate via the second subscriber line with a remote transceiver that is located at the remote premises and coupled to the second subscriber line, the second subscriber line comprising a second plurality of conductive connections extending from the second transceiver to the remote transceiver coupled to the second subscriber line;

a third transceiver coupled to a third subscriber line, the third transceiver configured to communicate via the third subscriber line with a remote transceiver that is located at the remote premises and coupled to the third subscriber line, the third subscriber line comprising a third plurality of conductive connections extending from the third transceiver to the remote transceiver coupled to the third subscriber line;

logic configured to receive an input data stream comprising data to be received by data communication equipment at the remote premises, the logic configured to split the data stream

into at least a first output data stream and a second output data stream, wherein the first transceiver is configured to transmit at least a portion of the first output data stream across the first subscriber line while the second transceiver is transmitting at least a portion of the second output data stream across the second subscriber line, the logic further configured to enable the third transceiver to selectively backup both of the first and second transceivers such that the third transceiver communicates a portion of either the first or second output data stream in response to a detection of a communication problem while one of the first and second transceivers is communicating a portion of the other output data stream; and

a control element configured to sum power from at least two of the subscriber lines.

11. (Canceled)

12. (Currently Amended) The system of claim ~~[[7]]~~ 10, ~~further comprising: a~~ comprising a direct current (DC) power ~~source; and a source, wherein the~~ control element is configured to electrically isolate the first subscriber line from the DC power source when the third transceiver is being used to backup the first transceiver, the control element further configured to electrically couple the first subscriber line to the DC power source when the first transceiver is communicating on the first subscriber line.

13. (Currently Amended) A communication system, comprising:

a first transceiver coupled to a first subscriber line, the first transceiver configured to communicate via the first subscriber line with a remote transceiver that is located at a remote premises and coupled to the first subscriber line, the first subscriber line comprising a first plurality of conductive connections extending from the first transceiver to the remote transceiver coupled to the first subscriber line;

a first transformer coupled to the first transceiver, the first transformer having a first pair of taps coupled to the first subscriber line;

a second transceiver coupled to a second subscriber line, the second transceiver configured to communicate via the second subscriber line with a remote transceiver that is located at the remote premises and coupled to the second subscriber line, the second subscriber line comprising a second plurality of conductive connections extending from the second transceiver to the remote transceiver coupled to the second subscriber line;

a second transformer coupled to the second transceiver, the second transformer having a second pair of taps coupled to the second subscriber line;

a third transceiver coupled to a third subscriber line, the third transceiver configured to communicate via the third subscriber line with a remote transceiver that is located at the remote premises and coupled to the third subscriber line, the third subscriber line comprising a third plurality of conductive connections extending from the third transceiver to the remote transceiver coupled to the third subscriber line;

a third transformer coupled to the third transceiver, the third transformer having a third pair of taps coupled to the third subscriber line; [[and]]

logic configured to split an input data stream into at least a first output data stream and a second output data stream, the logic configured to interface the first and second output data streams with the first and second transceivers such that the first and second transceivers

respectively transmit the first and second output data streams on the first and second subscriber lines, the logic further configured to interface one of the output data streams with the third transceiver in response to a communication problem associated with one of the first and second subscriber lines, the logic further configured to dynamically select the one output data stream for interfacing with the third transceiver based on which of the first and second subscriber lines is associated with the communication problem; and

a direct current (DC) power interface configured to apply a DC voltage difference across the first pair of taps and to apply a DC voltage difference across the second pair of taps, the DC power interface further configured to apply a DC voltage difference across the third pair of taps.

14. (Canceled)

15. (Original) The system of claim 13, further comprising:

a direct current (DC) power source; and

a control element configured to electrically isolate the first subscriber line from the DC power source when the third transceiver is being used to backup the first transceiver, the control element further configured to electrically couple the first subscriber line to the DC power source when the first transceiver is communicating on the first subscriber line.

16. (Currently Amended) ~~The system of claim 13, further comprising~~ A communication system, comprising:

a first transceiver coupled to a first subscriber line, the first transceiver configured to communicate via the first subscriber line with a remote transceiver that is located at a remote premises and coupled to the first subscriber line, the first subscriber line comprising a first plurality of conductive connections extending from the first transceiver to the remote transceiver coupled to the first subscriber line;

a second transceiver coupled to a second subscriber line, the second transceiver configured to communicate via the second subscriber line with a remote transceiver that is located at the remote premises and coupled to the second subscriber line, the second subscriber line comprising a second plurality of conductive connections extending from the second transceiver to the remote transceiver coupled to the second subscriber line;

a third transceiver coupled to a third subscriber line, the third transceiver configured to communicate via the third subscriber line with a remote transceiver that is located at the remote premises and coupled to the third subscriber line, the third subscriber line comprising a third plurality of conductive connections extending from the third transceiver to the remote transceiver coupled to the third subscriber line;

logic configured to split an input data stream into at least a first output data stream and a second output data stream, the logic configured to interface the first and second output data streams with the first and second transceivers such that the first and second transceivers respectively transmit the first and second output data streams on the first and second subscriber lines, the logic further configured to interface one of the output data streams with the third transceiver in response to a communication problem associated with one of the first and second subscriber lines, the logic further configured to dynamically select the one output data stream for

interfacing with the third transceiver based on which of the first and second subscriber lines is associated with the communication problem; and

a control element configured to sum power from at least two of the subscriber lines.

17. (Currently Amended) A communication method, comprising the steps of:

receiving a data stream;

splitting the data stream into at least a first data stream and a second data stream;

communicating at least a portion of the first data stream between a first pair of transceivers on a first subscriber line, the first subscriber line extending from one of the first pair of transceivers to the other of the first pair of transceivers and comprising a first twisted pair coupled to a first pair of taps of a first transformer;

communicating, during the communicating at least the portion of the first data stream step, at least a portion of the second data stream between a second pair of transceivers on a second subscriber line, the second subscriber line extending from one of the second pair of transceivers to the other of the second pair of transceivers and comprising a second twisted pair coupled to a second pair of taps of a second transformer; [[and]]

enabling a third pair of transceivers coupled to a third subscriber line to selectively backup both of the first and second pair of transceivers such that the third pair of transceivers communicates a portion of either the first or second data stream in response to a detection of a communication problem during one of the communicating steps, the third subscriber line extending from one of the third pair of transceivers to the other of the third pair of transceivers and comprising a third twisted pair coupled to a third pair of taps of a third transformer; and

applying a direct current (DC) voltage difference across the first pair of taps;

applying a DC voltage difference across the second pair of taps; and

applying a DC voltage difference across the third pair of taps.

18. (Previously Presented) The method of claim 17, further comprising the steps of:
switching communication from the first pair of transceivers to the third pair of transceivers
in response to a detection of a communication problem associated with the communicating at
least the portion of the first output data stream step; and

switching communication from the second pair of transceivers to the third pair of
transceivers in response to a detection of a communication problem associated with the
communicating at least the portion of the second output data stream step.

19. (Canceled)

20. (Currently Amended) ~~The method of claim 17, further comprising the step of A~~
communication method, comprising the steps of:

receiving a data stream;

splitting the data stream into at least a first data stream and a second data stream;

communicating at least a portion of the first data stream between a first pair of
transceivers on a first subscriber line, the first subscriber line extending from one of the first pair of
transceivers to the other of the first pair of transceivers and comprising a first twisted pair;

communicating, during the communicating at least the portion of the first data stream step,
at least a portion of the second data stream between a second pair of transceivers on a second
subscriber line, the second subscriber line extending from one of the second pair of transceivers
to the other of the second pair of transceivers and comprising a second twisted pair;

enabling a third pair of transceivers coupled to a third subscriber line to selectively backup
both of the first and second pair of transceivers such that the third pair of transceivers
communicates a portion of either the first or second data stream in response to a detection of a

communication problem during one of the communicating steps, the third subscriber line extending from one of the third pair of transceivers to the other of the third pair of transceivers and comprising a third twisted pair; and

summing power from at least two of the subscriber lines.

21. (Canceled)

22. (Currently Amended) The method of claim ~~[[21]]~~ 23, further comprising the step of applying a direct current (DC) voltage difference to a pair of transformer taps coupled to the third subscriber line.

23. (Currently Amended) ~~The method of claim 21, further comprising the step of A~~
communication method, comprising the steps of:

splitting a data stream into a first data stream and a second data stream;

interfacing the first data stream with a first transceiver such that the first data stream is communicated by the first transceiver on a first subscriber line to a remote transceiver that is located at a remote premises and coupled to the first subscriber line, the first subscriber line comprising a first plurality of conductive connections extending from the first transceiver to the remote transceiver coupled to the first subscriber line;

interfacing, during the interfacing the first data stream step, the second data stream with a second transceiver such that the second data stream is communicated by the second transceiver on a second subscriber line to a remote transceiver that is located at the remote premises and coupled to the second subscriber line, the second subscriber line comprising a first plurality of conductive connections extending from the second transceiver to the remote transceiver coupled to the second subscriber line;

detecting a communication problem associated with one of the first and second subscriber lines;

interfacing, in response to the detecting step and during one of the interfacing steps, one of the first and second data streams with a third transceiver such that the one data stream is communicated by the third transceiver on a third subscriber line to a remote transceiver that is located at the remote premises and coupled to the third subscriber line, the third subscriber line comprising a third plurality of conductive connections extending from the third transceiver to the remote transceiver coupled to the third subscriber line;

dynamically selecting the one data stream to be interfaced with the third transceiver in response to the detecting step based on which of the first and second subscriber lines is associated with the communication problem; and

summing power from at least two of the subscriber lines.

24. (Currently Amended) The system of claim [[7]] 10, wherein the first plurality of conductive connections comprises a first twisted pair, wherein the second plurality of conductive connections comprises a second twisted pair, and wherein the third plurality of conductive connections comprises a third twisted pair.

25. (Currently Amended) The system of claim [[7]] 10, wherein the first transceiver is configured to modulate data via a modulation scheme, wherein the second transceiver is configured to modulate data via the modulation scheme, and wherein the third transceiver is configured to modulate data via the modulation scheme.

26. (Currently Amended) The system of claim [[7]] 10, further comprising logic configured to receive the first and second output data streams from the remote transceivers and to combine the first and second output data streams thereby recovering the input data stream.

27. (Previously Presented) The method of claim 17, further comprising the steps of:
receiving the first and second data streams from the subscriber lines; and
combining the received first and second data streams.

28. (Currently Amended) The system of claim [[1]] 6, wherein each of the transceivers is configured to transmit data at a rate of 772 kilo-bits per second.

29. (Currently Amended) The system of claim [[7]] 10, wherein each of the transceivers is configured to transmit data at a rate of 772 kilo-bits per second.

30. (Previously Presented) The system of claim 13, wherein each of the first output data stream and the second output data stream has a data rate of 772 kilo-bits per second.

31. (Previously Presented) The method of claim 17, wherein each of the first data stream and the second data stream has a data rate of 772 kilo-bits per second.

32. (Currently Amended) The method of claim [[21]] 23, wherein each of the first data stream and the second data stream has a data rate of 772 kilo-bits per second.

33. (Currently Amended) ~~The system of claim 7, further comprising:~~ A communication system, comprising:

a first transceiver coupled to a first subscriber line, the first transceiver configured to communicate via the first subscriber line with a remote transceiver that is located at a remote premises and coupled to the first subscriber line, the first subscriber line comprising a first plurality of conductive connections extending from the first transceiver to the remote transceiver coupled to the first subscriber line;

a second transceiver coupled to a second subscriber line, the second transceiver configured to communicate via the second subscriber line with a remote transceiver that is located at the remote premises and coupled to the second subscriber line, the second subscriber line comprising a second plurality of conductive connections extending from the second transceiver to the remote transceiver coupled to the second subscriber line;

a third transceiver coupled to a third subscriber line, the third transceiver configured to communicate via the third subscriber line with a remote transceiver that is located at the remote premises and coupled to the third subscriber line, the third subscriber line comprising a third plurality of conductive connections extending from the third transceiver to the remote transceiver coupled to the third subscriber line;

logic configured to receive a data stream comprising data to be received by data communication equipment at the remote premises, the logic configured to split the data stream such that a portion of the data is modulated and transmitted by the first transceiver across the first plurality of conductive connections to the remote transceiver coupled to the first subscriber line while a portion of the data stream is modulated and transmitted by the second transceiver across the second plurality of conductive connections to the remote transceiver coupled to the second subscriber line, the logic configured to switch communication from the first transceiver to the third transceiver in response to a detection of a communication problem associated with the first

subscriber line such that a portion of the data is modulated and transmitted by the third transceiver across the third plurality of conductive connections to the remote transceiver coupled to the third subscriber line while a portion of the data stream is modulated and transmitted by the second transceiver across the second plurality of conductive connections to the remote transceiver coupled to the second subscriber line, the logic further configured to switch communication from the second transceiver to the third transceiver in response to a detection of a communication problem associated with the second subscriber line such that a portion of the data is modulated and transmitted by the third transceiver across the third plurality of conductive connections to the remote transceiver coupled to the third subscriber line while a portion of the data stream is modulated and transmitted by the first transceiver across the first plurality of conductive connections to the remote transceiver coupled to the first subscriber line;

a first transformer coupled to the first transceiver, the first transformer having a first pair of taps coupled to the first subscriber line;

a second transformer coupled to the second transceiver, the second transformer having a second pair of taps coupled to the second subscriber line;

a third transformer coupled to the third transceiver, the third transformer having a third pair of taps coupled to the third subscriber line; and

a direct current (DC) power interface configured to apply a DC voltage difference across the first pair of taps and to apply a DC voltage difference across the second pair of taps, the DC power interface further configured to apply a DC voltage difference across the third pair of taps.

34. (Previously Presented) The system of claim 33, further comprising a control element at the remote premises, the control element configured to sum power from at least one of the subscriber lines with power from another of the subscriber lines thereby providing a summed power for use at the remote premises.

35. (Previously Presented) The system of claim 33, further comprising:
a direct current (DC) power source at the remote premises; and
a control element configured to electrically isolate the third subscriber line from the DC power source while the first and second output data streams are being communicated across the first and second subscriber lines, the control element further configured to electrically couple the third subscriber line to the DC power source in response to the detection of the communication problem such that electrical power is provided from the third subscriber line to the DC power source, wherein the control element is configured to sum power from at least one of the subscriber lines with power from another of the subscriber lines.

36. (Previously Presented) The system of claim 26, wherein the input data stream is a synchronous data stream.

37. (Previously Presented) The method of claim 27, wherein the received data stream is a synchronous data stream.